WHAT IS CLAIMED IS:

1. A method of publishing signature log entries having information about signatures generated by user's side apparatus, comprising the steps of:

on a publication agency's side apparatus,

receiving and publishing the user's signature log entries generated by the user's side apparatus as a user's signature log entry publishing step;

notifying the users of having published the user's signature log entries as a user's signature log entry publication notifying step;

generating a publication agency's signature log entry by using the received user's signature log entries, and updating a signature log having the publication agency's signature log entry produced and registered in past times as a signature log updating step;

publishing the generated publication agency's signature log entry as a publication agency's signature log entry publication step; and

notifying the users of having published the publication agency's signature log entry as a publication agency's signature log entry publication notifying step.

2. A method according to claim 1, wherein said signature log updating step includes the steps of:

generating the publication agency's signature log entry on the basis of the received user's signature

log entries and a plurality of other signature log entries, and recording it in a signature log file as a signature log entry generating step; and

recording information of the users and information of the received user's signature log entries in a user information file as a user information file-updating step.

3. A method according to claim 1, wherein the user's signature log entry publishing step has a step of acquiring a time-stamp to assure the publication date and time of the user's signature log entry as a time-stamp acquiring step.

4. A method according to claim 2, wherein the signature log entry generating step uses, in the user's signature log entries, signature algorithm identification information, signature numbers peculiar to the signature log entries, hash values for the previous signature log enties to validate a chain, and signature numbers and hash values for the received user's signature log entries to generate the publication agency's signature log entry, and adds the generated publication agency's signature log entry to the signature log.

5. A method according to claim 2, wherein the user information file updating step generates data of

a signature number attached to the publication agency's signature log entry,

a reception code indicating that the

corresponding publication agency' signature log entry is generated according to the reception of the user's signature log entries,

partner information indicative of senders who transmitted the user's signature log entries,

signature numbers attached to the received user's signature log entries, and

the received user's signature log entries, and adds it to the user information file.

6. A method according to claim 1, wherein the user's signature log entry publication notifying step on the publication agency's side apparatus includes the steps of

generating a publication notice to notify the users on the user's side apparatus of having published as a publication notice generating step,

generating a signature from the generated publication notice and the previous signature log entries of the signature log, and adding it to the publication notice as a signature generating step,

recording the generated signature information on the signature log as a signature log updating step,

recording information of the users in the user information file as a user information file updating step, and

transmitting the generated publication notice to the users as a transmitting step.

7. A method according to claim 6, wherein the

publication notice generating step generates the publication notice on the basis of

the message for notifying the users of having published,

the published signature log entries, and

the time-stamp indicative of the publication date and time.

8. A method according to claim 6, wherein the signature log updating step generates the signature log entries including

signature algorithm identification information,

signature numbers attached to the inherent signature log entries,

hash values for the previous signature log entries to use in validating the chain,

hash values for the signature-generated messages, and

the generated signatures, and adds them to the signature log.

9. A method according to claim 6, wherein the user information file updating step adds, to the user information file, information of

the signature numbers associated with the signature log entries,

a code indicating that the corresponding publication agency's signature log entry was produced when the signature was generated, and

partner information indicative of the users to whom the publication notice is sent.

10. A method according to claim 6, wherein the publication agency's signature log entry publishing step publishes part of the signature log updated on the basis of the publication notice generating step.

11. A method according to claim 2, wherein the publication agency's signature log entry publication notifying step includes the steps of

searching for the users to be notified from the user information file as an opponent sender searching step,

searching for the log to be sent from the user information file as a transmission log range acquiring step,

notifying of having published the publication agency's signature log entry as a publication notice generating step,

generating a signature from the generated publication notice and the signature log entries of the previous signatures as a signature generating step,

recording the generated signature information in the signature log as a signature log updating step,

recording the user information to be notified in the user information file as a user information file updating step, and

transmitting the generated publication notice to the users as a transmission step.

12. A method according to claim 11, wherein the publication notice generating step generates the publication notice on the basis of

the message for notifying the user of having published the publication agency's signature log entry,

the published signature log entry, and

the signature log of a range to be transmitted.

13. A method according to claim 11, wherein the user information file updating step adds, to the user information file, the information of

the signature number attached to the publication agency's signature log entry,

the code indicating that the corresponding publication agency's signature log entry was produced when the publication agency's log entry publication has been notified,

the partner information indicative of the users to whom the publication notice is to be sent, and

the information about a range of log to be transmitted.

14. A method according to claim 1, wherein the user's side apparatus has the user information file that has recorded therein the information about the transmitting-side or receiving-side opponent in association with the user's signature log entries or publication agency's signature log entry transmitted or received by the user's side apparatus.